



RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/797,553A
Source: IFW
Date Processed by STIC: 10-18-04

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.2 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS

<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - cPAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 06/05/04):
U.S. Patent and Trademark Office, 220 20th Street S., Customer Window, Mail Stop Sequence, Crystal Plaza Two, Lobby, Room 1B03, Arlington, VA 22202

Revised 05/17/04

Raw Sequence Listing Error Summary

ERROR DETECTED

SUGGESTED CORRECTION

SERIAL NUMBER: 10/797,553A

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1 Wrapped Nucleics
 Wrapped Aminos The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
- 2 Invalid Line Length The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3 Misaligned Amino
 Numbering The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 4 Non-ASCII The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5 Variable Length Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
- 6 PatentIn 2.0
 "bug" A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 7 Skipped Sequences
 (OLD RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:
 (2) INFORMATION FOR SEQ ID NO X (insert SEQ ID NO where "X" is shown)
 (i) SEQUENCE CHARACTERISTICS (Do not insert any subheadings under this heading)
 (xi) SEQUENCE DESCRIPTION SEQ ID NO X (insert SEQ ID NO where "X" is shown)
 This sequence is intentionally skipped

 Please also adjust the "(ii) NUMBER OF SEQUENCES" response to include the skipped sequences.
- 8 Skipped Sequences
 (NEW RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:
 <210> sequence id number
 <400> sequence id number
 000
- 9 Use of n's or Xaa's
 (NEW RULES) Use of n's and/or Xaa's have been detected in the Sequence Listing.
 Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
 In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
- 10 Invalid <213>
 Response Per 1.823 of Sequence Rules, the only valid <213> responses are Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence.
- 11 Use of <220> Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.
 (Sec. "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
- 12 PatentIn 2.0
 "bug" Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 13 Misuse of n/Xaa "n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid.



IFWO

RAW SEQUENCE LISTING

DATE: 10/18/2004

PATENT APPLICATION: US/10/797,553A

TIME: 14:23:13

Input Set : A:\797,553SeqList.txt

Output Set: N:\CRF4\10182004\J797553A.raw

3 <110> APPLICANT: Moyle, William R.
 4 Xing, Yonga
 6 <120> TITLE OF INVENTION: Protein Knobs
 8 <130> FILE REFERENCE: Moy1-005US
 10 <140> CURRENT APPLICATION NUMBER: 10/797,553A
 11 <141> CURRENT FILING DATE: 2004-03-10
 13 <150> PRIOR APPLICATION NUMBER: PCT/US02/35914
 14 <151> PRIOR FILING DATE: 2002-11-08
 16 <160> NUMBER OF SEQ ID NOS: 66
 18 <170> SOFTWARE: PatentIn version 3.3
 20 <210> SEQ ID NO: 1
 21 <211> LENGTH: 92
 22 <212> TYPE: PRT
 23 <213> ORGANISM: Artificial
 25 <220> FEATURE:
 26 <223> OTHER INFORMATION: Artificial Sequence
 28 <400> SEQUENCE: 1
 30 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
 31 1 5 10 15
 34 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
 35 20 25 30
 38 Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
 39 35 40 45
 42 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
 43 50 55 60
 46 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
 47 65 70 75 80
 50 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
 51 85 90
 54 <210> SEQ ID NO: 2
 55 <211> LENGTH: 92
 56 <212> TYPE: PRT
 57 <213> ORGANISM: Artificial
 59 <220> FEATURE:
 60 <223> OTHER INFORMATION: Artificial Sequence
 62 <400> SEQUENCE: 2
 64 Ala Pro Asp Val Cys Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
 65 1 5 10 15
 68 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
 69 20 25 30
 72 Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
 73 35 40 45
 76 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser

(ps.6)

Does Not Comply
Corrected Diskette NeededPLS explain source
OF genetic material.

(ps.1-5)

Invalid

Response

PLS explain source of genetic
material.

Invalid

Response

↗ PLS see item #11 on
 error summary sheet. 10/18/04

RAW SEQUENCE LISTING

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Input Set : A:\797,553SeqList.txt

Output Set: N:\CRF4\10182004\J797553A.raw

77 50 55 60
80 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
81 65 70 75 80
84 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
85 85 90
88 <210> SEQ ID NO: 3
89 <211> LENGTH: 92
90 <212> TYPE: PRT
91 <213> ORGANISM: Artificial
93 <220> FEATURE:
94 <223> OTHER INFORMATION: artificial sequence
96 <400> SEQUENCE: 3
98 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Cys Gln Glu Asn Pro
99 1 5 10 15
102 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
103 20 25 30
106 Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
107 35 40 45
110 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
111 50 55 60
114 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
115 65 70 75 80
118 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
119 85 90
122 <210> SEQ ID NO: 4
123 <211> LENGTH: 92
124 <212> TYPE: PRT
125 <213> ORGANISM: Artificial
127 <220> FEATURE:
128 <223> OTHER INFORMATION: artificial sequence
130 <400> SEQUENCE: 4
132 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Cys Pro
133 1 5 10 15
136 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
137 20 25 30
140 Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
141 35 40 45
144 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
145 50 55 60
148 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
149 65 70 75 80
152 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
153 85 90
156 <210> SEQ ID NO: 5
157 <211> LENGTH: 92
158 <212> TYPE: PRT
159 <213> ORGANISM: Artificial
161 <220> FEATURE:
162 <223> OTHER INFORMATION: artificial sequence

SAME
errorsPLS
see
item #
on error
summary
sheet.

RAW SEQUENCE LISTING

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Input Set : A:\797,553SeqList.txt

Output Set: N:\CRF4\10182004\J797553A.raw

164 <400> SEQUENCE: 5
166 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
167 1 5 10 15
170 Cys Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
171 20 25 30
174 Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
175 35 40 45
178 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
179 50 55 60
182 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
183 65 70 75 80
186 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
187 85 90
190 <210> SEQ ID NO: 6
191 <211> LENGTH: 92
192 <212> TYPE: PRT
193 <213> ORGANISM: Artificial
195 <220> FEATURE:
196 <223> OTHER INFORMATION: artificial sequence
198 <400> SEQUENCE: 6
200 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
201 1 5 10 15
204 Phe Phe Ser Gln Pro Cys Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
205 20 25 30
208 Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
209 35 40 45
212 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
213 50 55 60
216 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
217 65 70 75 80
220 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
221 85 90
224 <210> SEQ ID NO: 7
225 <211> LENGTH: 92
226 <212> TYPE: PRT
227 <213> ORGANISM: Artificial
229 <220> FEATURE:
230 <223> OTHER INFORMATION: artificial sequence
232 <400> SEQUENCE: 7
234 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
235 1 5 10 15
238 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Cys Cys Met Gly Cys Cys
239 20 25 30
242 Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
243 35 40 45
246 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
247 50 55 60
250 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
251 65 70 75 80

same
errors

RAW SEQUENCE LISTING

DATE: 10/18/2004

PATENT APPLICATION: US/10/797,553A

TIME: 14:23:13

Input Set : A:\797,553SeqList.txt

Output Set: N:\CRF4\10182004\J797553A.raw

*VSAMP
errors*

254 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
 255 85 90
 258 <210> SEQ ID NO: 8
 259 <211> LENGTH: 92
 260 <212> TYPE: PRT
 261 <213> ORGANISM: Artificial
 263 <220> FEATURE:
 264 <223> OTHER INFORMATION: artificial sequence
 266 <400> SEQUENCE: 8
 268 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Cys Gln Glu Asn Pro
 269 1 5 10 15
 272 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
 273 20 25 30
 276 Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
 277 35 40 45
 280 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
 281 50 55 60
 284 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
 285 65 70 75 80
 288 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
 289 85 90
 292 <210> SEQ ID NO: 9
 293 <211> LENGTH: 92
 294 <212> TYPE: PRT
 295 <213> ORGANISM: Artificial
 297 <220> FEATURE:
 298 <223> OTHER INFORMATION: artificial sequence
 300 <400> SEQUENCE: 9
 302 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
 303 1 5 10 15
 306 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
 307 20 25 30
 310 Phe Ser Cys Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
 311 35 40 45
 314 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
 315 50 55 60
 318 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
 319 65 70 75 80
 322 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
 323 85 90
 326 <210> SEQ ID NO: 10
 327 <211> LENGTH: 92
 328 <212> TYPE: PRT
 329 <213> ORGANISM: Artificial
 331 <220> FEATURE:
 332 <223> OTHER INFORMATION: artificial sequence
 334 <400> SEQUENCE: 10
 336 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
 337 1 5 10 15

RAW SEQUENCE LISTING

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Input Set : A:\797,553SeqList.txt

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*CSAME
errors*

```

340 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
341           20                25                30
344 Phe Ser Arg Ala Cys Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
345           35                40                45
348 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
349           50                55                60
352 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
353 65           70                75                80
356 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
357           85                90
360 <210> SEQ ID NO: 11
361 <211> LENGTH: 92
362 <212> TYPE: PRT
363 <213> ORGANISM: Artificial
365 <220> FEATURE:
366 <223> OTHER INFORMATION: artificial sequence
368 <400> SEQUENCE: 11
370 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
371 1           5                10                15
374 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
375           20                25                30
378 Phe Ser Arg Ala Tyr Cys Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
379           35                40                45
382 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
383 50           55                60
386 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
387 65           70                75                80
390 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
391           85                90
394 <210> SEQ ID NO: 12
395 <211> LENGTH: 92
396 <212> TYPE: PRT
397 <213> ORGANISM: Artificial
399 <220> FEATURE:
400 <223> OTHER INFORMATION: artificial sequence
402 <400> SEQUENCE: 12
404 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
405 1           5                10                15
408 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
409           20                25                30
412 Phe Ser Arg Ala Tyr Pro Cys Pro Leu Arg Ser Lys Lys Thr Met Leu
413           35                40                45
416 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
417 50           55                60
420 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
421 65           70                75                80
424 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
425           85                90
428 <210> SEQ ID NO: 13

```

The type of errors shown exist throughout
the Sequence Listing. Please check subsequent
sequences for similar errors.

RAW SEQUENCE LISTING ERROR SUMMARY
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Input Set : A:\797,553SeqList.txt
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:56; Xaa Pos. 1,8,10

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27

Seq#:28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51

Seq#:52,53,54,55,56,57,58,59,60,61,62,63,64,65,66

VERIFICATION SUMMARY

DATE: 10/18/2004

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Input Set : A:\797,553SeqList.txt

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L:2208 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:56 after pos.:0